National policies and the CDM: Avoiding perverse incentives

H Winkler
Senior Researcher, Energy Research Centre, University of Cape Town

Abstract
The CDM is a project-based mechanism to promote flexibility in mitigation climate change, by promoting investment in mitigation projects in developing countries. There has been concern about potential perverse incentives for developing countries like South Africa not to adopt progressive national policies, fearing that CDM projects implementing such policy would no longer be additional. The CDM rules on additionality require that emissions are reduced 'below those that would have occurred in the absence of the registered CDM project activity'. The paper shows that recent decisions by the CDM Executive Board make it clear that such perverse incentives will not be created. The paper suggests concrete interpretations of this guidance for two possible project types. Projects implementing national policies that promote zero- or low-carbon emission technologies (e.g. South Africa's renewable energy target) can still go through the CDM process. Where there are local regulations, as for landfill gas, projects would not be ruled out entirely, but would receive credit for the difference between actual methane capture and that needed to meet local safety, health and environmental standards. The author concludes that projects implementing progressive energy policies are still eligible for CDM investment.

Keywords: Clean Development Mechanism, CDM Executive Board, renewable energy projects, South Africa

Introduction

Article 12 of the Kyoto Protocol to the UN Framework Convention on Climate Change (UNFCCC) establishes a Clean Development Mechanism (CDM) (UNFCCC 1997). The CDM is a project-based mechanism to promote flexibility in mitigation climate change, by promoting investment in mitigation projects in developing countries. Specifically, it allows industrialised countries to meet part of their emissions reductions targets by investing in developing countries. It is also supposed to contribute to sustainable development in developing countries, which act as hosts to the projects. The Marrakech Accords (UNFCCC 2001) – agreed at COP-7 in 2001 – launched the CDM in principle, although ratification by sufficient countries is still required to formally bring the Kyoto Protocol and its mechanisms into force. The CDM modalities and procedures (hereafter simply 'CDM rules') address important technical issues that affect project development, including additionality, baselines and monitoring.

The paper focuses on a particular issue within this set of rules, namely the treatment of national policies. The potential problem is that national policies might require the implementation of measures that reduce GHG emissions and thus no longer be additional. This would create a perverse incentive for developing countries like South Africa not to adopt progressive national policies. The paper shows that recent decisions by the CDM Executive Board make it clear that such perverse incentives will *not* be created. The implications for South Africa are that the CDM can contribute to new mitigation policies, such as the recent setting of a renewable energy target (DME 2003). The paper also considers more specific recommendations that could help operationalise the guidance from the Executive Board.

National policies in the CDM rules

The CDM rules contain detailed procedures for calculating baselines. Baselines are scenarios of the emissions that would have happened without the CDM project. They are projections of what would have happened in the 'counter-factual' situation, i.e. if the project did not occur. For example, if South Africa does not build a wind farm to generate electricity, it might build a coal-fired, gas or nuclear power plant instead. The baseline as specified in paragraph 44 of the CDM rules is the 'scenario that reasonably represents the anthropogenic emissions by sources of greenhouse gases that would occur in the absence of the proposed project activity' (UNFCCC 2001). Substantial technical

work has been conducted to establish baselines internationally and for South Africa. Readers are referred to this literature for a more general discussion of baselines (OECD, IEA 2000; Lazarus et al 2000; Lazarus et al 2001; Ellis et al 2001; Winkler et al 2001; Kartha & Lazarus 2002; Martens et al; 2001; Winkler & Thorne 2002; Sathaye et al 2003).

The focus in this paper is on the treatment of national policies in relation to baselines and additionality. Paragraph 45(e) of the CDM rules states that a baseline shall be established 'taking into account relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector' (UNFCCC 2001). The concern underlying this provision is that proposed CDM projects might no longer be considered 'additional' under the CDM rules. The CDM rules on additionality specify that 'a CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity'. There has been much discussion on the interpretation of these rules and whether they require only showing a reduction in emissions of the project against the baseline scenario, or also showing that the project is not itself the baseline – in simple terms, that the project is business-as-usual and would have happened anyway.

If national policy already requires the measures that lead to emission reductions, one might consider that it would have happened without the CDM project. An example of this concern is expressed by Christiana Figueres (2004):

> The current interpretation of additionality is a disincentive for developing countries to develop decarbonising policies. If climate-friendly sectoral policies are put in place, projects are considered non-additional and therefore excluded from the CDM.

Recent guidance by the Executive Board, however, has made clear that such a perverse incentive is to be avoided.

Executive Board: no perverse incentives

At its eleventh meeting, the Executive Board[1] provided general guidance that, taking into account, relevant national and/or sectoral policies, should not create perverse incentives, that is, discourage developing countries from implementing policies that reduce emissions by turning projects implementing these policies not eligible to CDM. It requested its 'panel on methodologies for baselines and monitoring' (Meth Panel) to develop recommendations how this could be operationalised, bearing in mind:

> that taking into account relevant national and/or sectoral policies when establishing baseline scenarios is not to create perverse incentives which may impact the host country Parties in contributing to the ultimate objective of the Convention' (UNFCCC 2003).

Given this guidance, the implications for South Africa are clear. The Board has sent a clear signal that it does not wish to create any perverse incentives to discourage progressive national policy.

For example, South Africa has recently adopted a target for renewable energy. In 2003, the Department of Minerals and Energy (DME) published a White Paper on Renewable Energy. The new policy document intends to:

> give much needed thrust to renewable energy; a policy that envisages a range of measures to bring about integration of renewable energies into the mainstream energy economy. To achieve this aim, Government is setting as its target **10 000 GWh** (0.8 Mtoe) renewable energy contribution to final energy consumption by 2013, to be produced mainly from biomass, wind, solar and small-scale hydro. The renewable energy is to be utilised for power generation and non-electric technologies such as solar water heating and bio-fuels. This is approximately **4%** (1667 MW) of the projected electricity demand for 2013 (41539 MW). This is in addition to the estimated existing (in 2000) renewable energy contribution of 115 278 GWh/annum (mainly from fuelwood and waste).

The last sentence makes it clear that this amount is additional to current use of renewable energy, most of which is biomass.

The broad guidance implies that renewable energy projects in South Africa would be eligible for CDM investment, even if they are implementing an aspirational national target. Making such projects ineligible would constitute a 'perverse incentive', which the Executive Board says is to be avoided.

This should not be misunderstood to imply that renewable energy projects are automatically additional. Renewable energy projects in South Africa will still have to go through the CDM validation process like any others, but should be considered ineligible *a priori*, simply because they are implementing national policy. The implication is that CDM investment can still be used to implement a national renewable energy target. The broad guidance from the Executive Board provides a clear signal, although the detailed interpretation will be further elaborated.

A similar argument would apply to energy efficiency. Government's draft strategy for energy effi-

ciency sets a 'national target for energy savings, of at least 12%, to be achieved by 2014', expressed as a reduction relative to project national energy demand for that year according to the baseline scenario in the Integrated Energy Plan (DME 2004). The strategy seeks to achieve this overall reduction

> through enabling instruments and interventions including economic and legislative means, information activities, energy labels, energy performance standards, energy audits, energy management and the promotion of efficient technologies.

CDM projects implementing this policy should not automatically be ruled out as non-additional, following the Executive Board guidance. The strategy specifically makes clear that the baseline scenario is 'business-as-usual' energy consumption, so that autonomous energy efficiency is included. To achieve the 12% target, additional effort is needed, some of which could be benefit from CDM investment. Such projects would need to go through the full CDM project cycle, but are not ruled out *a priori*.

Implementing policies in developing countries

A further distinction supporting this view is that between the *existence* of a policy and its *implementation*. In many developing countries, policies that are on the statute books are not implemented, with one of the key reasons being the scarcity of capital.

A methodology for baselines and monitoring of emissions reductions from municipal solid waste (MSW) management in India was approved by the Executive Board at its April 2004 meeting (EB13). In this case, the Indian Ministry of Environment and Forests has issued regulations for MSW in 2000. The Municipal Solid Wastes (Management and Handling) Rules (2000) were to be in effect from December 2003. However, the project participants argued – and the Meth Panel and Executive Board accepted – that environmental regulations are poorly enforced with financial resources for their implementation are lacking. In other words, the baseline scenario starts with non-compliance with the new MSW rules and only gradually to MSW disposal sites moved away from with unmanaged means of waste management.

The baseline scenario is a gradual improvement over time, to options required by MSW Management Rule (2000), namely (1) incineration, (2) compost, (3) sanitary land-filling, (4) biomethanation or their combination. It is the *implementation* of policy that is the considered the baseline scenario, not the *existence* of the policy. However, the methodology draws a line by saying that compliance (at the level of the state within India) must be monitored. If compliance with MSW rules exceeds 50%, the project activity shall receive no further credit, since the assumption that the policy is not enforced is no longer tenable. If more than half of the disposal sites in the relevant state comply with the rules, it can be assumed that this is business-as-usual.

Specifying the broad guidance

The broad guidance provided by the Executive Board sends a clear signal. More specific recommendations on how this could be operationalised are needed. While these will be developed by the Meth Panel and approved finally by the Executive Board, some possible options emerge from the discussion above. The following examples from the South African context seem particularly relevant:

- As argued for the example of South Africa's renewable energy target, projects implementing national policies that promote zero- or low-carbon emission technologies should be eligible for the CDM. Furthermore, to avoid the perverse incentive of the CDM projects lowering the baseline of the country, it might be possible to exclude plants built under such a policy from the baseline for a crediting period. This would be 7 or 10 years, depending on the choice of crediting period by the project participants. Seven-year crediting periods can be renewed twice, but in the 2nd and 3rd period, previous CDM projects might become part of the baseline.
- A similar approach could be taken with energy efficiency projects, allowing them to be eligible for CDM investment if their effort goes beyond autonomous energy efficiency improvements. As outlined above, this assumption is built into the formulation of the national target.
- A different situation arises with landfill gas (LFG) projects. A government may be reluctant to adopt local regulations for methane (motivated by health and safety concerns), again with the concern that this might render LFG projects non-additional. One approach would be to clarify that projects can still claim credit for level of methane capture *above* that required to meet local standards. Projects would not be ruled out entirely, but would receive credit for the difference between actual methane capture and that needed to meet safety, health and local environmental (SHE) standards. There are several approved methodologies for landfill gas projects, and the Meth Panel is in the process of consolidating these during 2004.

The above are possible short-term solutions to the concern about perverse incentives. Taking a broader view, one might even ask whether the CDM is (yet) large enough to be a major factor in

determining national policies, in many cases. While some $800 million of investment have been allocated to CDM projects (Ellis et al 2004), it remains small relative to other investment flows, both foreign and domestic. The current project-based architecture of the CDM still does not allow for policy interventions that are not project-based (e.g. price changes). The problem of perverse incentives can only be resolved overall, if broader policy measures also become eligible for the CDM. Such questions are more likely to be resolved in the longer-term, with approaches to mitigation in developing countries such as sectoral CDM (Santiago & Figueres 2002) or 'sustainable development policies and measures' Winkler et al 2002). These approaches allow the inclusion of programmes and price changes for investment in mitigation – changes which do not have to be confined to physical project boundaries.

Conclusion

Concerns have been raised that the CDM might induce countries not to promulgate progressive policy, or even repeal existing laws so that projects can receive CDM investment. Such concerns about 'perverse incentives' should have been allayed by the recent guidance from the Executive Board.

The broad guidance is to be elaborated into more specific recommendations. Zero-emissions technologies may be excluded in pursuance of national policy for the first crediting period. For local regulations of LFG, the difference between actual methane capture and the amount needed to meet SHE standards could be credited. The Executive Board can be expected to provide authoritative interpretations in due course. For South Africa in particular, it seems apparent that the implementation of its renewable energy target and other progressive policies are still eligible for CDM investment.

Notes

1. Executive Board reports are downloadable from http://cdm.unfccc.int/EB/Meetings.
2. The proposed methodology (NM 32) can be viewed at http://cdm.unfccc.int/methodologies/process. The final approved version is expected to be on the website (http://cdm.unfccc.int/methodologies/approved.html) later in 2004. See previous note for EB meeting reports.
3. For example, see http://www.cseindia.org/html/eyou/climate/atmospher.htm

References

DME (Department of Minerals and Energy) 2003. *White paper on renewable energy.* Pretoria: DME.

DME (Department of Minerals and Energy) 2004. Draft energy efficiency strategy of the Republic of South Africa. DME, Pretoria.

ECON. 2003. Regional baselines for Southern Africa: Memo 2003-038. ECON Centre for Economic Analysis, Oslo.

Ellis, J, Corfee-Morlot, J & Winkler, H. 2004. Taking stock of progress under the Clean Development Mechanism (CDM). OECD/IEA, Paris, 2004).

Ellis, J, Missfeldt, F, Bosi, M & Painuly, J. 2001. Possibilities for standardised baselines for JI and the CDM. Chairman's Recommendations and Workshop Report for the UNEP/OECD/IEA Workshop on Baseline Methodologies, Roskilde, Denmark.

Figueres, C. 2004. Validators' venue: Additionality criterion cripples CDM. *PointCarbon CDM Monitor*, March 11 2004: 2.

Kartha, S & Lazarus, M. 2002. Practical baseline recommendations for GHG mitigation mrojects in the electric power sector. OECD and IEA Information Paper. With M Bosi. OECD/IEA, Paris.

Lazarus, M, Kartha, S & Bernow, S. 2001. Project baselines and boundaries for project-based GHG emission reduction trading. Tellus Institute, Boston.

Lazarus, M, Kartha, S, Ruth, M, Bernow, S & Dunmire, C. 1999. Evaluation of benchmarking as an approach for establishing Clean Development Mechanism baselines. Tellus Institute and Stratus Consulting, Boston.

Martens, J.-W, van Rooijen, S N M, Bovée, V & Wijnants, H-J. 2001. Standardised baselines for small-scale CDM activities. Draft discussion paper. Netherlands Energy Research Foundation ECN, Petten, Netherlands.

Matsuo, N. 2000. Proposal for step-by-step baseline standardization for CDM: From project-specific to generalized formula. Royal Institute of International Affairs, London.

OECD, IEA (Organisation for Economic Co-operation and Development/International Energy Agency) 2000. Emission baselines. Paris: OECD.

Samaniego, J & Figueres, C. 2002. Evolving to a sector-based Clean Development Mechanism. In Baumert, K, Blanchard, O, Llosa, S & Perkaus, J F (Eds) *Building on the Kyoto Protocol: Options for protecting the climate.* Washington: World Resources Institute: 89-108.

Sathaye, J, Murtishaw, S, Price, L, Lefranc, M, Roy, J, Winkler, H & Spalding-Fecher, R. 2004. Multiproject baselines for evaluation of electric power projects *Energy Policy* 32: 1303-1317.

UNFCCC (United Nations Framework Convention on Climate Change) 1997. Kyoto Protocol to the United Nations Framework Convention on Climate Change. Bonn: UNFCCC Secretariat.

UNFCCC (United Nations Framework Convention on Climate Change) 2001. Modalities and procedures for a clean development mechanism, as defined in Article

12 of the Kyoto Protocol. FCCC/CP/2001/13/Add.2. (COP-7, Marrakech, 2001) pp. 20-50.

UNFCCC (United Nations Framework Convention on Climate Change). 2003. Executive Board of the Clean Development Mechanism: Eleventh Meeting: Report. Bonn.

Winkler, H, Spalding-Fecher, R, Mwakasonda, S & Davidson, O. 2002. Sustainable development policies and measures: Starting from development to tackle climate change.In Baumert, K, Blanchard, O, Llosa, S & Perkaus, J F (Eds) *Building on the Kyoto Protocol: Options for protecting the climate.* Washington: World Resources Institute: 61-87.

Winkler, H, Spalding-Fecher, R, Sathaye, J & Price, L. 2001 Multi-project baselines for potential Clean Development Mechanism projects in the electricity sector in South Africa. *Journal of Energy in Southern Africa* 12: 449-457.

Winkler, H & Thorne, S. 2002. Baselines for suppressed demand: CDM projects contribution to poverty alleviation. *South African Journal of Economic and Management Sciences* 5: 413-429.

Received 23 July 2004; revised 13 September 2004